

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

79840

Page 2

N900040100

Setup Start *NS1*

Stop *NS2*

2

Cust Item ID:

2

Customer:

Reference:

Run Start *NR1*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Stop *NR2*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

**Insp.
Stamp**

0.00

130

0.00

QC

Memo

Quality Control

0.00

140

Small Fab

Small Fab

Memo

Small Fab

Deburr

Drill as per Dwg D3304 using drill Jig D3304-T1Deburr

QC5- Inspect part completeness to step on W/O

0.00

150

QC

Memo

0.00

Quality Control

W/O:		WORK ORDER CHANGES					
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NOTE: Date & initial all entries

Work Order ID 79840***79840***

Page 3

February-03-12 3:33:21 PM

Item ID: D3304-041

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Tube Assembly

Start Date: 03/02/2012 Start Qty: 2.00

2

Cust Item ID:

Required Date: 17/02/2012 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

160

Large Fab

Large Fab

Memo

0.00

0.00

Large Fab

Weld bracket as per Dwg D3304 and QSI 004

EL 12-3-20 (12)

170

170

QC

Quality Control

QC9- Inspect visual per QSI004- Fusion Welds

Memo

0.00

0.00

PL 12-03-212x Ø

180

180

QC

Quality Control

QC5- Inspect part completeness to step on W/O

Memo

0.00

0.00

2 Ø SRR
12-3-21

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 79840

79840

Page 4

February-03-12 3:33:21 PM

Item ID: D3304-041 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Tube Assembly
 Start Date: 03/02/2012 Start Qty: 2.00 ***2*** Cust Item ID:
 Required Date: 17/02/2012 Req'd Qty: 2.00 ***2*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3	0.00							
190						2	2	(P)	12/03/26.
Powdercoat	Memo	0.00							
Powder Coating	START TIME: 8h20	OVEN TEMPERATURE:	118/18						
	8h50 FINISH TIME:	320°F	m118489						
200	QC3- Inspect Part Finish	0.00							
200						2	0	M	12/03/26
QC	Memo	0.00							
Quality Control									
210	Small Fab	0.00							
210									
Small Fab	Memo	0.00							
Small Fab	Assemble lanyard and pip pin as per Dwg D3304								

12/03/28 (2)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

Work Order ID 79840

79840

Page 5

February-03-12 3:33:21 PM

Item ID: D3304-041 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Tube Assembly
 Start Date: 03/02/2012 Start Qty: 2.00 ***2*** Cust Item ID:
 Required Date: 17/02/2012 Req'd Qty: 2.00 ***2*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220	QC5- Inspect part completeness to step on W/O	0.00							
220 QC Quality Control	Memo	0.00	8/26/12			(2)			
230	Identify as per dwg & Stock Location: <u>186</u>	0.00							
230 Packaging Packaging	Memo	0.00							12/4/12 (2)
240	QC21- Final Inspection - Work Order Release	0.00							
240 QC Quality Control	Memo	0.00							12/4/12 (2)

12-03-30

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

Picklist Print

February-03-12 3:33:27 PM

Page 1

Work Order ID: 79840

79840

Parent Item: D3304-041

D3304-041

Parent Item Name: Tube Assembly

Start Date: 03/02/2012

Required Date: 17/02/2012

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP: C04.11.17Step 13 revisedKJ/JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

CBL-1240		Purchased	No			100	f	722.7765	1.0417	2.0834			
----------	--	-----------	----	--	--	-----	---	----------	--------	--------	--	--	--

CBL-1240

Cable

**

EB 12/03/28

Location

Loc Qty

Loc Code

GA

722.7765259

113565

3.911789

118207

1.03473685

119021

477.922

119690

239.908

2.0834

M304TR0.875W.065

Purchased

No

160

f

10.0000

1.3437

2.828842

M304TR0 875W 065

304 round tube .875 x .065w

**

Location

Loc Qty

Loc Code

MAT017

10

110680

10

210

Each

11.0000

1

2

BLBS-0016

Purchased

No

RI RS-0016

PIP PIN

**

3.0 12/02/09

EB 12/03/28

Location

Loc Qty

Loc Code

ST283

11

113489

1

113565

10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Picklist Print

February-03-12 3:33:27 PM

Page 2

Work Order ID: 79840

79840

Parent Item: D3304-041

D3304-041

Parent Item Name: Tube Assembly

Start Date: 03/02/2012

Required Date: 17/02/2012

Start Qty: 2.00

Required Qty: 2.00

CBL-460

Purchased

No

210

Each

419.0000

2

4

**

CBL-460

Loop Sleeve

Location

Loc Qty

Loc Code

GA

419

117947

4

118140

33

119021

188

119690

194

D3304-5

Manufactured

No

210

Each

21.0000

1

2

**

D3304-5

Bracket

Location

Loc Qty

Loc Code

WA022

21

54570

21

2/3/12/03/28

M120809

2 12-3-20

2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order: 79840

Part Number: 3304-1



Page 1 of 1

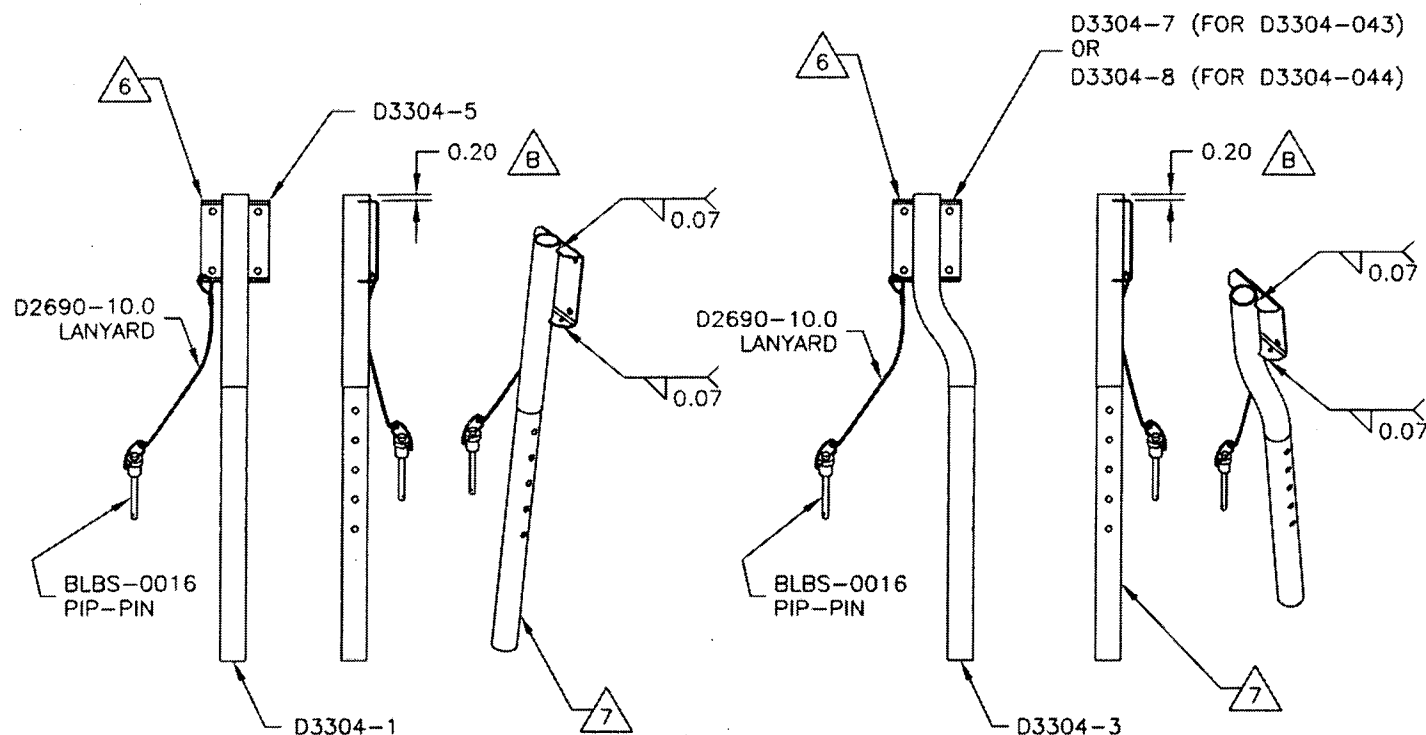
X	First Article	X	Prototype
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Measured by: <i>90</i>		Audited by: <i>SA</i>		Prototype Approval:	
Date: <i>12/02/09</i>		Date: <i>12/2/09</i>		Date:	

Rev	Date	Change	Revised by	Approved
A		New Issue	KJ/JLM	

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DESIGN RF		DRAWN BY RF		DART AEROSPACE LTD HAMKESBURY, ONTARIO, CANADA	
CHECKED 	APPROVED 		DRAWING NO. D3304		REV. B
DATE 05.07.15			SHEET 1 OF 4		
			TITLE TUBE ASSEMBLY		SCALE 1:6
A	04.08.18		NEW ISSUE		
B	05.07.15		UPDATE DIMENSIONS; ADD D3304-7/-8		



D3304-041 TUBE ASSEMBLY

D3304-044 TUBE ASSEMBLY (SHOWN)
D3304-043 OPPOSITE

D3304-041/-043/-044 NOTES:

- 1) FINISH: POWDER COAT GREY SANDEX (REF. 4.3.5.6) PER DART QSI 005 4.3
- 2) WELD PER DART QSI 004
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) IDENTIFY AS INDICATED USING FINE POINT PERMANENT INK MARKER "TCCA-PDA, DART AEROSPACE LTD, P/N D3304-XXX B/N BXXXXX, FOR PRODUCT ELIGIBILITY SEE PDA04-11"
- 7) IF BEING ASSEMBLED WITH D3303-041, ADD THE FOLLOWING USING A FINE POINT PERMANENT INK MARKER: "TCCA-PDA, DART AEROSPACE LTD, P/N D412-724-XXX B/N BXXXXX, FOR PRODUCT ELIGIBILITY SEE PDA04-11"

25-08-11

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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

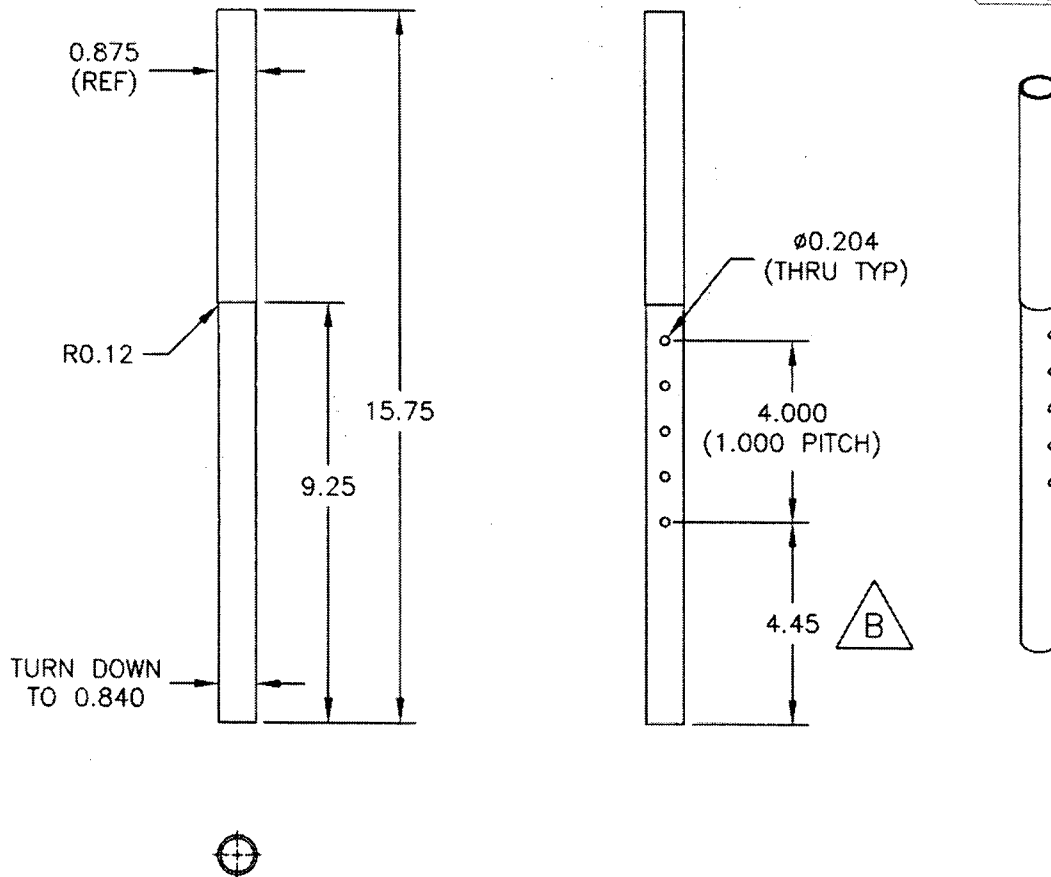
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3304	REV. B SHEET 2 OF 4
DATE 05.07.15		TITLE TUBE ASSEMBLY	SCALE 1:4

RELEASED
05-08-11 *[Signature]*



D3304-1 TUBE

D3304-1 NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL TUBE $\phi 0.875 \times 0.065$ WALL
(REF. DART SPEC M304TR0.875W.065) ENSURE SEAMLESS TUBE IS USED
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015

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03865

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

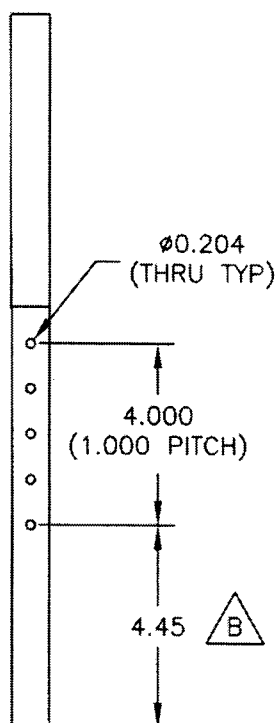
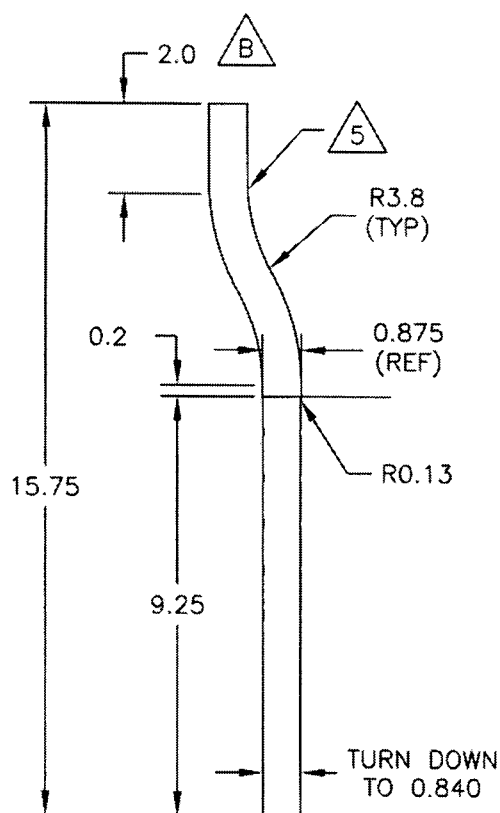
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

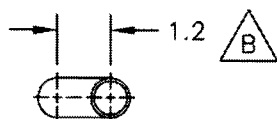
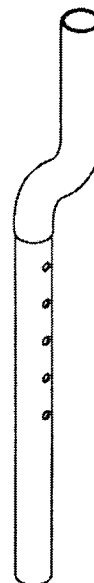
NOTE: Date & initial all entries



DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3304	REV. B SHEET 3 OF 4
DATE 05.07.15		TITLE TUBE ASSEMBLY	SCALE 1:4



RELEASED
05-08-11 *[Signature]*



D3304-3 TUBE

D3304-3 NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL TUBE $\phi 0.875 \times 0.065$ WALL (REF. DART SPEC M304TRO.875W.065) ENSURE SEAMLESS TUBE IS USED
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) BEND LINES 9.625, 13.375 DIMENSIONS

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0786

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

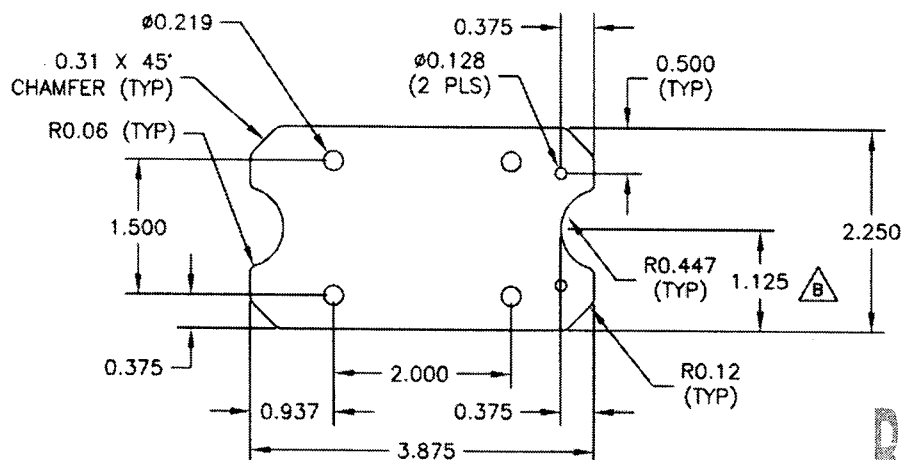
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

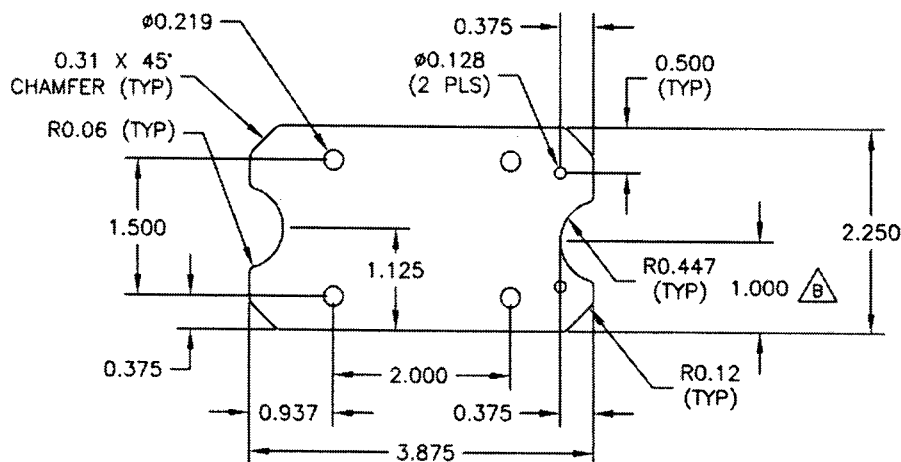
NOTE: Date & initial all entries



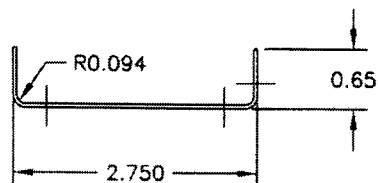
DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED 	APPROVED 	DRAWING NO. D3304	REV. B SHEET 4 OF 4
DATE 05.07.15		TITLE TUBE ASSEMBLY	SCALE 1:2



D3304-5 FLAT PATTERN



D3304-7/-8 FLAT PATTERN



**D3304-5/-7 BRACKET
D3304-8 OPPOSITE**

NOTES:

- 1) MATERIAL: AISI 304/316 SS 0.040 THICK SHEET (REF. DART SPEC M304S20GA)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015

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79864

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries